

NYMPHOIDES DISPERMA (MENYANTHACEAE): A NEW AUSTRALIAN SPECIES

by

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ABSTRACT

Aston, H. I. *Nymphoides disperma* (Menyanthaceae): a new Australian species. *Muelleria* 6(3): 197-200 (1986). — *Nymphoides disperma* is described and its diagnostic features illustrated. The species occurs in the Kimberley region of Western Australia.

TAXONOMY

This paper is the third precursor to a revision of *Nymphoides* Séguier in Australia. Two previous papers describing seven new species appeared in *Muelleria* 5:35-51 (1982) and 5:265-270 (1984). Except for a modification concerning style type, the common characters given on page 35 of the first paper also apply to *N. disperma*. This species belongs in the "geminata group" defined on the same page.

Nymphoides disperma H. I. Aston, sp. nov.

Annua. *Lamina folii* natans, 15-40 x 14-45 mm, plus minusve rotunda (nonnunquam late-ovata) profunde cordata. *Inflorescentia* breviter elongata pedicellis geminatis unoquoque nodo vel condensatis; internodia brevia, ad 1-8 mm longa. *Flores* 5-partiti, non nisi homostylosi (= medistylosi) iam cogniti. *Corolla* c. 16-25 mm diam. aurantio-lutea; lobae alis latis valde laciniatis atque basi fimbria transversali imperfecta praeditae papillarum gracilium in uno centrali fasciculo et duobus fasciculis lateralibus dispositarum; unusquisque fasciculus plerumque in basi prominente; tubus quinque fasciculis pilorum c. 10-12 brevium tenuium simplicium liberorum intra faucem praeditus. *Capsula* oblonga, c. 3.5-4.3 x 2.0-2.25 mm. *Semina* 1-4, plerumque 2 (duobus superpositis) per capsulam plus minusve globosa et modice utrinque compressa, 1.9-2.4 x 1.75-2.3 x 1.55-1.85 mm, sculpta per caespites dispersos tuberculorum longorum obtusorum eminentes super planum parietum cellularum convexorum (nonnunquam caespites eminentes desunt); caruncula basalis, semi-circularis, pallida, parva, inconspicua.

Ab aliis luteofloralibus speciebus, "geminatae gregis", et per ordinationem fimbriae in corolla, et per magnitudinem formamque seminorum, et per sculpturam seminorum, et per capsulam plerumque 2-seminalem distincta est.

Annual, perhaps perennial where water persists. *Rootstock* slender, few-60 mm long x 2-3 mm diam., bearing lateral roots. *Branches* several from the plant base, slender, flexuose, floating, simple or once forked, to 50 cm long x <1-1.5 mm diam., their terminal portions developing the inflorescences. *Basal leaves* several; petiole slender, terete, 6.5-31 cm long x 1-1.5 mm diam.; blade near-rounded (occasionally broad-ovate) in outline, deeply cordate (the lobes mostly 27-40% of the total blade length and separated by a sinus of 30°-50° (-80°) angle), obtuse to rounded, entire, 15-40 x 14-45 mm with length from a little less than to a little greater than the width, thin-textured, green above, green to deep purplish-maroon beneath, floating. *Cauline leaves* similar; petiole 2-7 cm long. *Inflorescences* as for the "geminata group", terminal on the branches, the rachis short and from more or less absent (the pedicels then appearing clustered) to 3 cm long; internodes short, from <1-8 mm long; pedicels 7-15 per inflorescence, very slender, 45-92 mm long x c. 0.5 mm diam. *Flowers* 5-partite. *Calyx lobes* lanceolate to ovate, acute, 4-4.5 mm long, with narrow translucent margins. *Corolla* c. 16-25 mm span, yellow to orange-yellow. *Corolla lobes* broad-oblong to obovate. Mid-section of corolla lobe glabrous except for a conspicuous, incomplete, transverse fringe of papillae across its base and for an inconspicuous cluster of short fine simple hairs on each edge at the base; fringe consisting of one central and two lateral clusters of slender

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papillae, sometimes with scattered single papillae arising between the clusters; papillae of each cluster to 1.5 mm long, united on a base of raised tissue or those of the central cluster distinct, without a common base. Side-wings of corolla lobe broad, undulate, strongly lacinate, extending from the lobe apex almost to its base. *Corolla tube* papillae free within each cluster, sessile, consisting of c. 10-12 short, fine, simple hairs. *Stamens* with filaments c. 0.8-1.1 mm long in mid-styled flowers; anthers more or less linear, c. 2.2-2.5 times as long as broad, 1.5-1.7 mm long. *Gynoecium (mid-styled flower)* c. 3.7 mm long; ovary 2-2.2 mm long, free except at the base, more or less linear-conical, tapered into the short broad style; placentas 2, positioned centrally along the length of the ovary wall, the 1 or 2 funicles on each being short and thick; ovules 2 (-4); style 0.1 mm long, almost indistinguishable from the ovary summit; stigmas 2, each a papillate, erect, deeply lobed and undulate wing c. 1.2-1.4 mm long x c. 1.6 mm broad. *Capsule* oblong (drying, in typical 2-seeded capsules, with a slight transverse constriction around the middle between the seeds), from a little less than to a little greater than the calyx, c. 3.5-4.3 x 2-2.5 mm. *Seeds* (1-2)(-4) per capsule; body of seed more or less globose but moderately laterally compressed, 1.9-2.4 mm long x 1.75-2.3 mm wide x 1.55-1.85 mm broad, more or less straw-coloured (or ? finally black) when mature, sculptured with a uniform layer of low convex cell walls and usually also with spaced clusters of long obtuse tubercles projecting vertically above that layer like steep-sided plateaus rising abruptly from a plain; basal caruncle present, pale, semi-circular around a short projection of the seed body, small and inconspicuous.

TYPE COLLECTION:

Unnamed creek running into Pauline Bay, Vansittart Bay, Northern Kimberley, Western Australia, 14° 12' 30" S., 126° 22' E., 22.v.1984, S. J. Forbes 2098 (HOLOTYPE: MEL 672226. ISOTYPES: MEL 672227, PERTH).

OTHER SPECIMENS EXAMINED:

Western Australia (Kimberley region) — Kalumburu [14° 18' S., 126° 38' E.], 3.vii.1960, Douglas & Mees s.n. (PERTH). Blyxa Creek, Prince Regent River Reserve, 15° 48' S., 125° 20' E., 21.viii.1974, A. S. George 12508 in part (PERTH — sheet 3 of dried coll. & spirit coll. 2167/B; not sheets 1 & 2 which are *N. aurantiaca* (Dalz.) Kuntze).

DISTRIBUTION:

Western Australia — Known only from the three collections cited above, all from the northern or north-western Kimberley region. Almost certainly occurs in other places of suitable habitat in this remote area.

HABITAT:

Clear, still to flowing, fresh water to 70 cm deep on sandy substrate in creeks and creek-pools. Altitude 10 m (Forbes 2098).

NOTES:

Readily recognised as a member of the "geminata group" by the orange-yellow flowers and the more or less open inflorescence with twinned pedicels. It differs from all other members of that group in the pattern of the corolla fringe and in the distinctive sculpturing of typical seeds.

The epithet *disperma* refers to the usually two seeds which are superposed in each capsule.

As the material examined is limited and I have not seen this species in the field, dimensions given in the description will probably need some expansion as more collections are made. No obviously long-styled or short-styled flowers have yet been collected but it is very probable that they exist. Spirit-preserved flowers from the Forbes 2098 type collection all appear mid-styled, with the anthers held more or less level with the stigmas. Buds examined from spirit-preserved inflorescences of George 12508 agree with flowers from Forbes 2098.

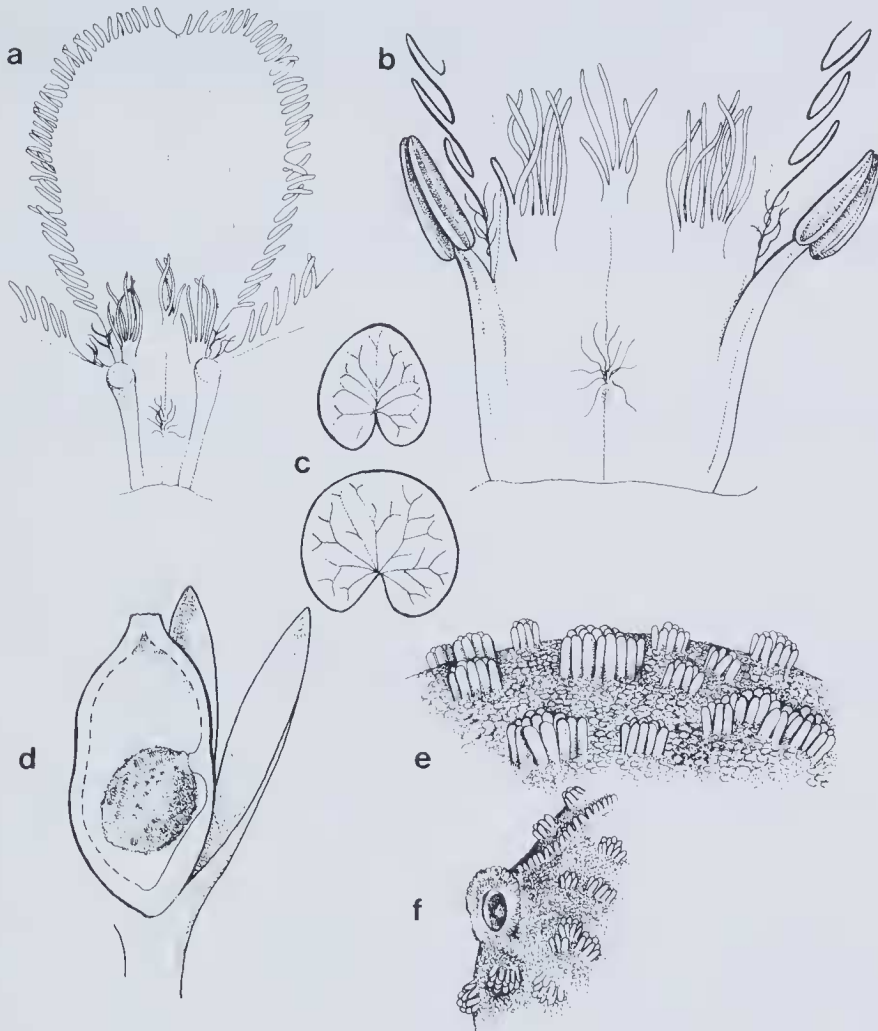


Fig. 1. *Nymphoides disperma*. a — corolla, portion showing one lobe with its incomplete basal fringe and one of the "papillae" clusters of the throat; stamens removed, x 6.5. b — corolla, basal portion of (a) enlarged; stamens shown, x 13. c — leaf laminas, x 1. d — capsule, 2-seeded, L.S. showing one of the placentas (= a short thick funicle) with its seed; second placenta and seed from L.H. side of capsule not shown, x 8. e — seed, portion of surface showing sculpture, x 50. f — seed, basal portion showing caruncle and surface sculpture, x 30. All from Forbes 2098 (MEL).

The projecting clusters of tubercles which form part of the sculpture of typical seeds are conspicuously present in the type material and in the *Douglas & Mees s.n.* collection but are absent from the *N. disperma* portions of *George 12508*. Seeds of the latter retain the layer of convex cell walls and are comparable in other ways with fully sculptured seeds.

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